

# Selected Readings in **COMPUTING AND TELECOMMUNICATIONS**

Editors  
Mira Kartiwi  
Teddy Surya Gunawan  
Aisha Hassan Abdalla Hashim



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## **Editors**

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## **12. FEATURE EXTRACTION FOR AUTOMATIC FETUS AGE ESTIMATION FOR ULTRASOUND IMAGES USING ELLIPSE MODEL**

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Teddy Surya Gunawan and Norakmal Abdullah

### **ABSTRACT**

In this context, this project involves on development of a MATLAB based to detect the head circumference and estimate the fetus age based on the head circumference. Furthermore, it also focuses on the literature review of the ultrasound imaging especially in obstetric ultrasound, methods use to determine the fetus age, the edge detection in the binary images, and template matching and pattern recognition from ultrasound images. It is discuss that the automate way of finding the head circumference will help reducing the error done by the sonologist. It also discuss that with the automated head circumference detection it will help to reduced the time needed to done the obstetric ultrasound less than 30 minutes per person which will helps to increase the number of obstetric ultrasound patients in a day. The purpose of this project is to expose us in application of communication engineering, to develop the innovation skill in student so that we can create a product that will make human life easier, paper researching, finding authentic references and also doing the correct format report.

### **12.1 INTRODUCTION**

According to Dr. Joseph Woo, obstetric ultrasound is the use of ultrasound scans in pregnancy, which has been use as a diagnostic device tool in pregnancy (obstetric). The image produce from this scan is use in several pregnancy analyses such as diagnosis and confirmation of early pregnancy,